Meteorology and Atmospheric Physics

Vol. 36, 1987

Springer-Verlag Wien New York

Meteorology and Atmospheric Physics

formerly
Archives for Meteorology, Geophysics, and Bioclimatology, Series A

Honorary and Founding Editor: F. Steinhauser, Wien
Managing Editor: E. R. Reiter, Fort Collins, Colo.

Editorial Board
R. F. Abbey, Jr., Arlington, Va.
L. Bengtsson, Reading
D. W. Beran, Boulder, Colo.
J. E. Cermak, Fort Collins, Colo.
J. S. Chang, Boulder, Colo.
H. C. Davies, Zürich
H. Dolezalek, Alexandria, Va.
M. Hantel, Bonn
G. J. Holland, Melbourne, Vic.
T. N. Krishnamurti, Tallahassee, Fla.
M. Kuhn, Innsbruck
K.-N. Liou, Salt Lake City, Utah
T. Nitta, Tokyo
H. Pichler, Innsbruck
R. A. Pielke, Fort Collins, Colo.
D. E. Stevens, Fort Collins, Colo.

Editorial Assistant: Ch. Bernhofer, Wien

The exclusive copyright for all languages and countries, including the right for photomechanical and any other reproductions including microform is transferred to the publisher

© 1987 by Springer-Verlag/Wien

GARP-ALPEX

The Alpine Experiment

General Aspects

Hafner, T. A., Reinhardt, M. E., Weisel, E. L., Fimpel, H. P., Boundary Layer Aspects and Elevated Heat Source Effects of the Alps 61

Hantel, M., Subsynoptic Vertical Heat Fluxes from High-Resolution Synoptic Budgets 24

McGinley, J. A., A Variational Objective Analysis Scheme for Analysis of the ALPEX Data Set 5

Paegle, J., Vukicevic, T., On the Predictability of Low-Level Flow During ALPEX 45

Reiter, R., Sladkovic, R., Pötzl, K., Marked Changes in the Aerosol Chemical Matrix Recently Observed at 1 780 m a.s.l. (BAPMoN Mountain Station) and Results of First Comparisons with Samples Obtained Simultaneously at 740 m a.s.l. 83

Skoda, G., Fractal Dimension of Rainbands over Hilly Terrain 74

Cyclogenesis

Buzzi, A., Speranza, A., Tibaldi, S., Tosi, E., A Unified Theory of Orographic Influences Upon Cyclogenesis 91

Johnson, D. R., Hill, D. K., Quasi-Lagrangian Diagnostics of a Mediterranean Cyclone: Isentropic Results 118

Pichler, H., Steinacker, R., On the Synoptics and Dynamics of Orographically Induced Cyclones in the Mediterranean 108

Tosi, E., Smith, R. B., Bradford, M. L., Aerial Observations of Stratospheric Descent in a Gulf of Genoa Cyclone 141

Qi Hu, Reiter, E. R., A Diagnostic Study of Explosive Cyclogenesis in the Lee of the Rocky Mountains . . 161

Mesoscale Effects

Boyer, D. L., Chen, R., Davies, P. A., Some Laboratory Models of Flow Past the Alpine/Pyrenees Mountain Complex 187

Jansá, A., Distribution of the Mistral: A Satellite Observation 201

Klemp, J. B., Durran, D. R., Numerical Modelling of Bora Winds 215

Local Wind Systems

Egger, J., Simple Models of the Valley-Plain Circulation. Part I: Minimum Resolution Model 231

Egger, J., Simple Models of the Valley-Plain Circulation. Part II: Flow Resolving Model 243

Hennemuth, B., Heating of a Small Alpine Valley . . 287

Vergeiner, I., An Elementary Valley Wind Model. . . 255

Vergeiner, I., Dreiseitl, E., Valley Winds and Slope Winds—Observations and Elementary Thoughts . . 264

Editor's Note 1

Foreword 1